ABSTRACT

Synthesis and analgesic activity test of *N*-(4-hydroxyphenyl)-4-methylbenzamide in mice (*Mus musculus*)

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The aim of this research is to synthesize *N*-(4-hydroxyphenyl)-4-tersier-butyl benzamide and to determine its analgesic activity in mice (*Mus musculus*). *N*-(4-hydroxyphenyl)-4-tersier-butylbenzamide was synthesized using *Shcotten-Baumann* method by reacting *p*-aminofenol with 4-tersier-butylbenzoyl chloride. This synthesis used pyridine as organic base and the reaction was heated at 60^{o}C. The product of synthesis was recrystallized by using ethanol and its purity was tested by thin layer chromatography and melting point test. The melting point of the product synthesis was 255-257 ^{o}C and the product of synthesis was pure showed by a single spot. The structure was confirmed by UV spectrophotometry method, infrared spectrophotometry method, and HNMR spectrometry method and the yield wa 73%. Its analgesic activity tested with *Writhing test* method. The pain-inhibition percentage of *N*-(4-hydroxyphenyl)-4-tersier-butylbenzamide for 25mg/kg body-weight was 31%. In the dose 50 mg/kg body-wieght was 63% and for 100 mg/kg body-wieght was 78%. However, the standard compound paracetamol in the dose 25mg/kg, the pain-inhibition was 18%, 50 mg/kg body-weight was 33% and 100 mg/kg body-weight was 48%. It concluded that *N*-(4-hydroxyphenyl)-4-tersier-butylbenzamide had higher analgesic activity than paracetamol.

Keyword:synthesis,*N*-(4-hydroxyphenyl)-4-tersier-butylbenzamide, analgesic activity